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OCT 19 2001

TECH CENTER 1600/2900

SEQUENCE LISTING

<110> WU, Xue-Ru
SUN, Tung-Tien

<120> TRANSGENIC ANIMALS AS URINARY BIOREACTORS FOR THE PRODUCTION OF POLYPEPTIDE IN THE URINE, RECOMBINANT DNA CONSTRUCT FOR KIDNEY-SPECIFIC EXPRESSION, AND METHOD OF USING SAME

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<141> 2000-06-26

<150> 60/108,195

<151> 1998-11-13

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atggggctgc tgagactaag 20

<210> 20
<211> 20
<212> DNA
<213> Mouse Uromodulin

<400> 20
aagtcagact gtgttaggat 20

<210> 21
<211> 20
<212> DNA
<213> Mouse Uromodulin

<400> 21
attgactgag caggaagcat 20

<210> 22
<211> 20
<212> DNA
<213> Mouse Uromodulin

<400> 22
atattataac ctccctctag 20

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<210> 23
 <211> 20
 <212> DNA
 <213> Mouse Uromodulin

 <400> 23
 atgcattcca gtctcagtgc 20

<210> 24
 <211> 21
 <212> DNA
 <213> Mouse Uromodulin

 <400> 24
 tggggagagg acaaagcctt g 21

<210> 25
 <211> 20
 <212> DNA
 <213> Mouse Uromodulin

 <400> 25
 tgacgtgcca actccactga 20

<210> 26
 <211> 20
 <212> DNA
 <213> Mouse Uromodulin

 <400> 26
 aggacctgta gggtaagaaa 20

<210> 27
 <211> 20
 <212> DNA
 <213> Mouse Uromodulin

 <400> 27
 tctggctgtg ggctctatat 20

<210> 28
 <211> 23
 <212> DNA
 <213> Goat Uromodulin

 <400> 28
 gactgagtac tggcgcagca cag 23

<210> 29
 <211> 22
 <212> DNA
 <213> Goat Uromodulin

 <400> 29
 gattgcactc agggggctct gt 22

<210> 30
 <211> 28
 <212> DNA
 <213> Goat Uromodulin

 <400> 30
 gtaccagccg cccagactga catcacag 28

 <210> 31
 <211> 28
 <212> DNA
 <213> Goat Uromodulin

 <400> 31
 caggttgtagc acgtagtagc cgccggca 28

 <210> 32
 <211> 27
 <212> DNA
 <213> Goat Uromodulin

 <400> 32
 aagatttacc agcccgggcc gtcgacc 27

 <210> 33
 <211> 27
 <212> DNA
 <213> Goat Uromodulin

 <400> 33
 aataaagtgc cagggcaggg gggctta 27

 <210> 34
 <211> 27
 <212> DNA
 <213> Goat Uromodulin

 <400> 34
 cttgtgtggt tgagtgtggt cttgacc 27

 <210> 35
 <211> 27
 <212> DNA
 <213> Goat Uromodulin

 <400> 35
 tgtgaaagg gatgtctttg ggtacca 27

 <210> 36
 <211> 27
 <212> DNA
 <213> Goat Uromodulin

 <400> 36
 acagcaatgt gcaaccat ggaagg 27

<210> 37
 <211> 1630
 <212> DNA
 <213> Goat Uromodulin

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<400> 37
actatagggc acgcgtggc gacggcccg gctggtaaag acaccagac ttaggttttg      60
acagagcctc atgttcacca accagaaatg acattcacca cctaggattg agaaaaagaa    120
tattaggaac ttttattttc ttctgaagtt atagcaaaga aaggggaaaa aaaaaaacat    180
tcttatgggg gataaacggg caaaggatac aaacagttca gaaaagaata aatagtaagc    240
aatgaaaag ataacttcct ttttcatcaa agaaccgcaa aagtaaataa tgataagatg    300
tttctcactt ttccacaaag atgaaagtta atgccagggg tggctgagta ctgtgctggg    360
attgtgaact aactgttata gatctctctg ggggtgctgt tgggaagaaa catcgctgaa    420
aactgagcta cctcttttcc tatgaaattc ccctgaggag gtgagtgagc cgctgctgat    480
cgtcaccgga gcactaggcc agacagaagg agaaagccct caaagaggca atgctgtgga    540
tcaactgtcat atttcctgct cagcctgagt tcacatgtgc ctgatttttc tcaatatggc    600
attgccatta acgtggaatt aggtcaggag acctaaggct gaaccaagcc ctgtcattct    660
ctgccccatg actgcgcatc accaaaacag catcggcagt gacttcaca gatggtacca    720
ttgctatatg ccttaacttg catcatctcc tttaatggcc ataacaattc taggacacgg    780
gtattcttgt tttacagatg atgaaaatta cctctggaag gaaaattact ggcacacaaa    840
aaacgctgac caggattcag atagactgac tccaaagtca gtctgttcat ctacaaaatt    900
atctacttct caaggacctt cttcatggg aattcaaatt tcttgattca cagagcatct    960
ggccaatga tgtctgaatt atctgctgtc tctgaccttc agccattctc agctcctttc   1020
ctgatcacat tgggaccca ggggagctgg ctgaatctgt gaggatggca tttgctttgg   1080
aattaagtgg ccacaagtac acatcctggg ggggacgatg agcaccctt ttctcctgga   1140
gcagcctggc ttcagattct ggcctctgct tggctccact ttgtgctttt caatgaccaa   1200
gaaaatccca ggcccttgga attgtttact cagttaattt ctaactaaag aacctcttgt   1260
tgccaaaagg tataaaacag agcccttgta gctgtgggca cagctgtgac ccccatgtca   1320
atcatttggg gtctctacct attagggaaa agaacaacaa ccacctcaca gcctagaaaa   1380
ggaaaacact gtgtcaaaaag ggaaaaatat tccaccccca ttaaaataat taagaaacag   1440
aaccagagga tcattggagg agagattgcc agtgggggac agatgtatat atatagatat   1500
gaaagtcacc tacttgtaaa aggattaatt ctacctttct ggtttcaggt aaggctatct   1560
gcagctctca cttctcctag ccacttctcc catctagtct ttgctggctc ccattctgtt   1620
tgaaggatgg                                     1630

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<210> 38
 <211> 644
 <212> PRT
 <213> Rat Uromodulin

<400> 38

Met Gly Gln Leu Leu Ser Leu Thr Trp Leu Leu Leu Val Met Val Val
 1 5 10 15

Thr Pro Trp Phe Thr Val Ala Gly Ala Asn Asp Ser Pro Glu Ala Arg
 20 25 30

Arg Cys Ser Glu Cys His Asp Asn Ala Thr Cys Val Leu Asp Gly Val
 35 40 45

Val Thr Thr Cys Ser Cys Gln Ala Gly Phe Thr Gly Asp Gly Leu Val
 50 55 60

Cys Glu Asp Ile Asp Glu Cys Ala Thr Pro Trp Thr His Asn Cys Ser
 65 70 75 80

Asn Ser Ile Cys Met Asn Thr Leu Gly Ser Tyr Glu Cys Ser Cys Gln
 85 90 95

Asp Gly Phe Arg Leu Thr Pro Gly Leu Gly Cys Ile Asp Val Asn Glu
 100 105 110

Cys Thr Glu Gln Gly Leu Ser Asn Cys His Ser Leu Ala Thr Cys Val
 115 120 125

Asn Thr Glu Gly Ser Tyr Ser Cys Val Cys Pro Lys Gly Tyr Arg Gly
 130 135 140

Asp Gly Trp Tyr Cys Glu Cys Ser Pro Gly Phe Cys Glu Pro Gly Leu
 145 150 155 160

Asp Cys Leu Pro Gln Gly Pro Ser Gly Lys Leu Val Cys Gln Asp Pro
 165 170 175

Cys Asn Val Tyr Glu Thr Leu Thr Glu Tyr Trp Arg Ser Thr Asp Tyr
 180 185 190

Gly Ala Gly Tyr Ser Cys Asp Ser Asp Met His Gly Trp Tyr Arg Phe
 195 200 205

Thr Gly Gln Gly Gly Val Arg Met Ala Glu Thr Cys Val Pro Val Leu
 210 215 220

Arg Cys Asn Thr Ala Ala Pro Met Trp Leu Asn Gly Ser His Pro Ser
225 230 235 240

Ser Arg Glu Gly Ile Val Ser Arg Thr Ala Cys Ala His Trp Ser Asp
245 250 255

His Cys Cys Leu Trp Ser Thr Glu Ile Gln Val Lys Ala Cys Pro Gly
260 265 270

Gly Phe Tyr Val Tyr Asn Leu Thr Glu Pro Pro Glu Cys Asn Leu Ala
275 280 285

Tyr Cys Thr Asp Pro Ser Ser Val Glu Gly Thr Cys Glu Glu Cys Gly
290 295 300

Val Asp Glu Asp Cys Val Ser Asp Asn Gly Arg Trp Arg Cys Gln Cys
305 310 315 320

Lys Gln Asp Phe Asn Val Thr Asp Val Ser Leu Leu Glu His Arg Leu
325 330 335

Glu Cys Glu Ala Asn Glu Ile Lys Ile Ser Leu Ser Lys Cys Gln Leu
340 345 350

Gln Ser Leu Gly Phe Met Lys Val Phe Met Tyr Leu Asn Asp Arg Gln
355 360 365

Cys Ser Gly Phe Ser Glu Arg Gly Glu Arg Asp Trp Met Ser Ile Val
370 375 380

Thr Pro Ala Arg Asp Gly Pro Cys Gly Thr Val Leu Arg Arg Asn Glu
385 390 395 400

Thr His Ala Thr Tyr Ser Asn Thr Leu Tyr Leu Ala Ser Glu Ile Ile
405 410 415

Ile Arg Asp Ile Asn Ile Arg Ile Asn Phe Glu Cys Ser Tyr Pro Leu
420 425 430

Asp Met Lys Val Ser Leu Lys Thr Ser Leu Gln Pro Met Val Ser Ala
435 440 445

Leu Asn Ile Ser Leu Gly Gly Thr Gly Lys Phe Thr Val Gln Met Ala
450 455 460

Leu Phe Gln Asn Pro Thr Tyr Thr Gln Pro Tyr Gln Gly Pro Ser Val
465 470 475 480

Met Leu Ser Thr Glu Ala Phe Leu Tyr Val Gly Thr Met Leu Asp Gly
 485 490 495

Gly Asp Leu Ser Arg Phe Val Leu Leu Met Thr Asn Cys Tyr Ala Thr
 500 505 510

Pro Ser Ser Asn Ser Thr Asp Pro Val Lys Tyr Phe Ile Ile Gln Asp
 515 520 525

Arg Cys Pro His Thr Glu Asp Thr Thr Ile Gln Val Thr Glu Asn Gly
 530 535 540

Glu Ser Ser Gln Ala Arg Phe Ser Ile Gln Met Phe Arg Phe Ala Gly
 545 550 555 560

Asn Ser Asp Leu Val Tyr Leu His Cys Glu Val Tyr Leu Cys Asp Thr
 565 570 575

Met Ser Glu Gln Cys Lys Pro Thr Cys Ser Gly Thr Arg Tyr Arg Ser
 580 585 590

Gly Asn Phe Ile Asp Gln Thr Arg Val Leu Asn Leu Gly Pro Ile Thr
 595 600 605

Arg Gln Gly Val Gln Ala Ser Val Ser Lys Ala Ala Ser Ser Asn Leu
 610 615 620

Gly Phe Leu Ser Ile Trp Leu Leu Leu Phe Leu Ser Ala Thr Leu Thr
 625 630 635 640

Leu Met Val His

<210> 39

<211> 642

<212> PRT

<213> Mouse Uromodulin

<400> 39

Met Gly Ile Pro Leu Thr Trp Met Leu Leu Val Met Met Val Thr Ser
 1 5 10 15

Trp Phe Thr Leu Ala Gly Ala Ser Asn Ser Thr Glu Ala Arg Arg Cys
 20 25 30

Ser Glu Cys His Asn Asn Ala Thr Cys Thr Val Asp Gly Val Val Thr
 35 40 45

Thr Cys Ser Cys Gln Thr Gly Phe Thr Gly Asp Gly Leu Val Cys Glu
 50 55 60

Asp Met Asp Glu Cys Ala Thr Pro Trp Thr His Asn Cys Ser Asn Ser
 65 70 75 80

Ser Cys Val Asn Thr Pro Gly Ser Phe Lys Cys Ser Cys Gln Asp Gly
 85 90 95

Phe Arg Leu Thr Pro Gly Leu Gly Cys Thr Asp Val Asp Glu Cys Ser
 100 105 110

Glu Gln Gly Leu Ser Asn Cys His Ala Leu Ala Thr Cys Val Asn Thr
 115 120 125

Glu Gly Asp Tyr Leu Cys Val Cys Pro Lys Gly Phe Thr Gly Asp Gly
 130 135 140

Trp Tyr Cys Glu Cys Ser Pro Ser Ser Cys Glu Pro Gly Leu Asp Cys
 145 150 155 160

Leu Pro Gln Gly Pro Asp Gly Lys Leu Val Cys Gln Asp Pro Cys Asn
 165 170 175

Thr Tyr Glu Thr Leu Thr Glu Tyr Trp Arg Ser Thr Glu Tyr Gly Val
 180 185 190

Gly Tyr Ser Cys Asp Ala Gly Gln His Gly Trp Tyr Arg Phe Thr Gly
 195 200 205

Gln Gly Gly Val Arg Met Ala Glu Thr Cys Val Pro Val Leu Ala Cys
 210 215 220

Asn Thr Ala Ala Pro Met Trp Leu Asn Gly Ser His Pro Ser Ser Ser
 225 230 235 240

Glu Gly Ile Val Ser Arg Thr Ala Cys Ala His Trp Ser Asp His Cys
 245 250 255

Cys Arg Trp Ser Thr Glu Ile Gln Val Lys Ala Cys Pro Gly Gly Phe
 260 265 270

Tyr Ile Tyr Asn Leu Thr Glu Pro Pro Glu Cys Asn Leu Ala Tyr Cys
 275 280 285

Thr Asp Pro Ser Ser Val Glu Gly Thr Cys Glu Glu Cys Arg Val Asp

290					295					300					
Glu	Asp	Cys	Ile	Ser	Asp	Asn	Gly	Arg	Trp	Arg	Cys	Gln	Cys	Lys	Gln
305					310					315					320
Asp	Ser	Asn	Ile	Thr	Asp	Val	Ser	Gln	Leu	Glu	Tyr	Arg	Leu	Glu	Cys
				325					330					335	
Gly	Ala	Asn	Asp	Ile	Lys	Met	Ser	Leu	Arg	Lys	Cys	Gln	Leu	Gln	Ser
			340					345					350		
Leu	Gly	Phe	Met	Asn	Val	Phe	Met	Tyr	Leu	Asn	Asp	Arg	Gln	Cys	Ser
		355					360					365			
Gly	Phe	Ser	Glu	Ser	Asp	Glu	Arg	Asp	Trp	Met	Ser	Ile	Val	Thr	Pro
	370					375					380				
Ala	Arg	Asn	Gly	Pro	Cys	Gly	Thr	Val	Leu	Arg	Arg	Asn	Glu	Thr	His
385						390					395				400
Ala	Thr	Tyr	Ser	Asn	Thr	Leu	Tyr	Leu	Ala	Asn	Ala	Ile	Ile	Ile	Arg
				405					410					415	
Asp	Ile	Ile	Ile	Arg	Met	Asn	Phe	Glu	Cys	Ser	Tyr	Pro	Leu	Asp	Met
			420					425					430		
Lys	Val	Ser	Leu	Lys	Thr	Ser	Leu	Gln	Pro	Met	Val	Ser	Ala	Leu	Asn
		435					440					445			
Ile	Ser	Leu	Gly	Gly	Thr	Gly	Lys	Phe	Thr	Val	Arg	Met	Ala	Leu	Phe
	450					455					460				
Gln	Ser	Pro	Thr	Tyr	Thr	Gln	Pro	Tyr	Gln	Gly	Pro	Ser	Val	Met	Leu
465						470					475				480
Ser	Thr	Glu	Ala	Phe	Leu	Tyr	Val	Gly	Thr	Met	Leu	Asp	Gly	Gly	Asp
				485					490					495	
Leu	Ser	Arg	Phe	Val	Leu	Leu	Met	Thr	Asn	Cys	Tyr	Ala	Thr	Pro	Ser
			500					505					510		
Ser	Asn	Ser	Thr	Asp	Pro	Val	Lys	Tyr	Phe	Ile	Ile	Gln	Asp	Ser	Cys
		515					520					525			
Pro	Arg	Thr	Glu	Asp	Thr	Thr	Ile	Gln	Val	Thr	Glu	Asn	Gly	Glu	Ser
	530					535					540				

Ser Gln Ala Arg Phe Ser Val Gln Met Phe Arg Phe Ala Gly Asn Tyr
545 550 555 560

Asp Leu Val Tyr Leu His Cys Glu Val Tyr Leu Cys Asp Ser Thr Ser
565 570 575

Glu Gln Cys Lys Pro Thr Cys Ser Gly Thr Arg Phe Arg Cys Gly Asn
580 585 590

Phe Ile Asp Gln Thr Arg Val Leu Asn Leu Gly Pro Ile Thr Arg Gln
595 600 605

Gly Val Gln Ala Ser Val Ser Lys Ala Ala Ser Ser Asn Leu Arg Leu
610 615 620

Leu Ser Ile Trp Leu Leu Leu Phe Leu Ser Ala Thr Leu Ile Phe Met
625 630 635 640

Val Gln

<210> 40
<211> 640
<212> PRT
<213> Human Uromodulin

<400> 40

Met Gly Gln Pro Ser Leu Thr Trp Met Leu Met Val Val Val Ala Ser
1 5 10 15

Trp Phe Ile Thr Thr Ala Ala Thr Asp Thr Ser Glu Ala Arg Trp Cys
20 25 30

Ser Glu Cys His Ser Asn Ala Thr Cys Thr Glu Asp Glu Ala Val Thr
35 40 45

Thr Cys Thr Cys Gln Glu Gly Phe Thr Gly Asp Gly Leu Thr Cys Val
50 55 60

Asp Leu Asp Glu Cys Ala Ile Pro Gly Ala His Asn Cys Ser Ala Asn
65 70 75 80

Ser Ser Cys Val Asn Thr Pro Gly Ser Phe Ser Cys Val Cys Pro Glu
85 90 95

Gly Phe Arg Leu Ser Pro Gly Leu Gly Cys Thr Asp Val Asp Glu Cys
100 105 110

Ala Glu Pro Gly Leu Ser His Cys His Ala Leu Ala Thr Cys Val Asn
 115 120 125
 Val Val Gly Ser Tyr Leu Cys Val Cys Pro Ala Gly Tyr Arg Gly Asp
 130 135 140
 Gly Trp His Cys Glu Cys Ser Pro Gly Ser Cys Gly Pro Gly Leu Asp
 145 150 155 160
 Cys Val Pro Glu Gly Asp Ala Leu Val Cys Ala Asp Pro Cys Gln Ala
 165 170 175
 His Arg Thr Leu Asp Glu Tyr Trp Arg Ser Thr Glu Tyr Gly Glu Gly
 180 185 190
 Tyr Ala Cys Asp Thr Asp Leu Arg Gly Trp Tyr Arg Phe Val Gly Gln
 195 200 205
 Gly Gly Ala Arg Met Ala Glu Thr Cys Val Pro Val Leu Arg Cys Asn
 210 215 220
 Thr Ala Ala Pro Met Trp Leu Asn Gly Thr His Pro Ser Ser Asp Glu
 225 230 235 240
 Gly Ile Val Ser Arg Lys Ala Cys Ala His Trp Ser Gly His Cys Cys
 245 250 255
 Leu Trp Asp Ala Ser Val Gln Val Lys Ala Cys Ala Gly Gly Tyr Tyr
 260 265 270
 Val Tyr Asn Leu Thr Ala Pro Pro Glu Cys His Leu Ala Tyr Cys Thr
 275 280 285
 Asp Pro Ser Ser Val Glu Gly Thr Cys Glu Glu Cys Ser Ile Asp Glu
 290 295 300
 Asp Cys Lys Ser Asn Asn Gly Arg Trp His Cys Gln Cys Lys Gln Asp
 305 310 315 320
 Phe Asn Ile Thr Asp Ile Ser Leu Leu Glu His Arg Leu Glu Cys Gly
 325 330 335
 Ala Asn Asp Met Lys Val Ser Leu Gly Lys Cys Gln Leu Lys Ser Leu
 340 345 350
 Gly Phe Asp Lys Val Phe Met Tyr Leu Ser Asp Ser Arg Cys Ser Gly
 355 360 365

Phe Asn Asp Arg Asp Asn Arg Asp Trp Val Ser Val Val Thr Pro Ala
370 375 380

Arg Asp Gly Pro Cys Gly Thr Val Leu Thr Arg Asn Glu Thr His Ala
385 390 395 400

Thr Tyr Ser Asn Thr Leu Tyr Leu Ala Asp Glu Ile Ile Ile Arg Asp
405 410 415

Leu Asn Ile Lys Ile Asn Phe Ala Cys Ser Tyr Pro Leu Asp Met Lys
420 425 430

Val Ser Leu Lys Thr Ala Leu Gln Pro Met Val Ser Ala Leu Asn Ile
435 440 445

Arg Val Gly Gly Thr Gly Met Phe Thr Val Arg Met Ala Leu Phe Gln
450 455 460

Thr Pro Ser Tyr Thr Gln Pro Tyr Gln Gly Ser Ser Val Thr Leu Ser
465 470 475 480

Thr Glu Ala Phe Leu Tyr Val Gly Thr Met Leu Asp Gly Gly Asp Leu
485 490 495

Ser Arg Phe Ala Leu Leu Met Thr Asn Cys Tyr Ala Thr Pro Ser Ser
500 505 510

Asn Ala Thr Asp Pro Leu Lys Tyr Phe Ile Ile Gln Asp Arg Cys Pro
515 520 525

His Thr Arg Asp Ser Thr Ile Gln Val Val Glu Asn Gly Glu Ser Ser
530 535 540

Gln Gly Arg Phe Ser Val Gln Met Phe Arg Phe Ala Gly Asn Tyr Asp
545 550 555 560

Leu Val Tyr Leu His Cys Glu Val Tyr Leu Cys Asp Thr Met Asn Glu
565 570 575

Lys Cys Lys Pro Thr Cys Ser Gly Thr Arg Phe Arg Ser Gly Ser Val
580 585 590

Ile Asp Gln Ser Arg Val Leu Asn Leu Gly Pro Ile Thr Arg Lys Gly
595 600 605

Val Gln Ala Thr Val Ser Arg Ala Phe Ser Ser Leu Gly Leu Leu Lys
610 615 620

Val Trp Leu Pro Leu Leu Leu Ser Ala Thr Leu Thr Leu Thr Phe Gln
625 630 635 640

<210> 41
<211> 459
<212> PRT
<213> Bovine Uromodulin

<400> 41

Met Lys Cys Ser Asn Met Trp Met Ala Ala Val Val Thr Ser Trp Val
1 5 10 15

Ala Ala Thr Asp Thr Ser Ser Ala Lys Ser Cys Ser Cys His Ser Asn
20 25 30

Ala Thr Cys Thr Val Asp Gly Ala Ala Thr Thr Cys Ala Cys Gly Thr
35 40 45

Gly Asp Gly Cys Val Asp Asp Cys Ala Val Gly Ala His Asn Cys Ser
50 55 60

Ala Thr Lys Ser Cys Val Asn Thr Gly Ser Tyr Thr Cys Val Cys Gly
65 70 75 80

Ser Ser Gly Cys Asp Val Asp Cys Ala Gly Ser Arg Cys His Ala Ala
85 90 95

Thr Cys Asn Gly Gly Asn Tyr Ser Cys Val Cys Ala Gly Tyr Gly Asp
100 105 110

Gly Arg His Cys Cys Ser Gly Ser Cys Gly Gly Asp Cys Val Arg Gly
115 120 125

Asp Ala Val Cys Val Asp Cys Val His Arg Asp Tyr Trp Arg Ser Thr
130 135 140

Tyr Gly Ser Gly Tyr Cys Asp Val Ser Gly Gly Trp Tyr Arg Val Gly
145 150 155 160

Ala Gly Val Arg Thr Cys Val Val His Cys Asn Thr Ala Ala Met Trp
165 170 175

Asn Gly Thr His Ser Ser Asp Gly Val Asn Arg Val Ala Cys Ala His
180 185 190

Trp Ser Gly Asp Cys Cys Trp Asp Ala Val Lys Ala Cys Ala Gly Gly
195 200 205

Tyr Tyr Val Tyr Asn Thr Ala Cys His Ala Tyr Cys Thr Asp Ser Ser
 210 215 220
 Val Gly Thr Cys Cys Arg Val Asp Asp Cys Lys Ser Asp Asn Gly Trp
 225 230 235 240
 His Cys Cys Lys Asp Asn Val Thr Asp Ser Arg Arg Cys Gly Val Asp
 245 250 255
 Asp Lys Ser Ser Lys Cys Lys Ser Gly Lys Val Met Tyr His Asp Ser
 260 265 270
 Cys Ser Gly Thr Arg Gly Asp Arg Asp Trp Met Ser Val Val Thr Ala
 275 280 285
 Arg Asp Gly Cys Gly Thr Val Met Thr Arg Asn Thr His Ala Thr Tyr
 290 295 300
 Ser Asn Thr Tyr Ala Asp Arg Asp Asn Arg Asn Ala Cys Ser Tyr Asp
 305 310 315 320
 Met Lys Val Ser Lys Thr Ser Met Val Ser Ala Asn Ser Met Gly Gly
 325 330 335
 Thr Gly Thr Thr Val Arg Met Ala Ser Ala Tyr Thr Tyr Gly Ser Ser
 340 345 350
 Val Thr Ser Thr Ala Tyr Val Gly Thr Met Asp Gly Gly Asp Ser Arg
 355 360 365
 Val Met Thr Asn Cys Tyr Ala Thr Ser Ser Asn Ala Thr Asp Lys Tyr
 370 375 380
 Asp Arg Cys Arg Ala Ala Asp Ser Thr Val Asn Gly Ser Gly Arg Ser
 385 390 395 400
 Val Met Arg Ala Gly Asn Tyr Asp Val Tyr His Cys Val Tyr Cys Asp
 405 410 415
 Thr Val Asn Lys Cys Arg Thr Cys Thr Arg Arg Ser Gly Ser Asp Thr
 420 425 430
 Arg Val Asn Gly Thr Arg Lys Gly Gly Ala Ala Met Ser Arg Ala Ala
 435 440 445
 Ser Ser Gly Val Trp Ser Ala Thr Thr Met Ser

450

455

<210> 42
 <211> 34
 <212> PRT
 <213> Rat Uromodulin

<400> 42

Gly Val Gln Ala Ser Val Ser Lys Ala Ala Ser Ser Asn Leu Gly Phe
 1 5 10 15

Leu Ser Ile Trp Leu Leu Leu Phe Leu Ser Ala Thr Leu Thr Leu Met
 20 25 30

Val His

<210> 43
 <211> 34
 <212> PRT
 <213> Mouse Uromodulin

<400> 43

Gly Val Gln Ala Ser Val Ser Lys Ala Ala Ser Ser Asn Leu Arg Leu
 1 5 10 15

Leu Ser Ile Trp Leu Leu Leu Phe Leu Ser Ala Thr Leu Ile Phe Met
 20 25 30

Val Gln

<210> 44
 <211> 33
 <212> PRT
 <213> Human Uromodulin

<400> 44

Gly Val Gln Ala Thr Val Ser Arg Ala Phe Ser Ser Leu Gly Leu Leu
 1 5 10 15

Lys Val Trp Leu Pro Leu Leu Leu Ser Ala Thr Leu Thr Leu Thr Phe
 20 25 30

Gln

<210> 45
 <211> 34
 <212> PRT

<213> Bovine Uromodulin

<400> 45

Gly Gly Gln Ala Ala Met Ser Arg Ala Ala Pro Ser Ser Leu Gly Leu
1 5 10 15

Leu Gln Val Trp Leu Pro Leu Leu Leu Ser Ala Thr Leu Thr Leu Met
20 25 30

Ser Pro

<210> 46

<211> 42

<212> PRT

<213> Torpedo

<400> 46

Asn Gln Phe Leu Pro Lys Leu Leu Asn Ala Thr Ala Cys Asp Gly Glu
1 5 10 15

Leu Ser Ser Ser Gly Thr Ser Ser Ser Lys Gly Ile Ile Phe Tyr Val
20 25 30

Leu Phe Ser Ile Leu Tyr Leu Ile Phe Tyr
35 40

<210> 47

<211> 42

<212> PRT

<213> Placenta

<400> 47

Thr Ala Cys Asp Leu Ala Pro Pro Ala Gly Thr Thr Asp Ala Ala His
1 5 10 15

Pro Gly Arg Ser Val Val Pro Ala Leu Leu Pro Leu Leu Ala Gly Thr
20 25 30

Leu Leu Leu Leu Glu Thr Ala Thr Ala Pro
35 40

<210> 48

<211> 41

<212> PRT

<213> Decay Accelerating Factor

<400> 48

His Glu Thr Thr Pro Asn Lys Gly Ser Gly Thr Thr Ser Gly Thr Thr
1 5 10 15

Arg Leu Leu Ser Gly His Thr Cys Phe Thr Leu Thr Gly Leu Leu Gly
 20 25 30

Thr Leu Val Thr Met Gly Leu Leu Thr
 35 40

<210> 49
 <211> 35
 <212> PRT
 <213> T. Brucei

<400> 49

Glu Pro Glu Pro Glu Pro Glu Pro Glu Pro Glu Pro Gly Ala Ala Thr
 1 5 10 15

Leu Lys Ser Val Ala Leu Pro Phe Ala Ile Ala Ala Ala Ala Leu Val
 20 25 30

Ala Ala Phe
 35

<210> 50
 <211> 36
 <212> PRT
 <213> Hamster

<400> 50

Gln Lys Glu Ser Gln Ala Tyr Tyr Asp Gly Arg Arg Ser Ser Ala Val
 1 5 10 15

Leu Phe Ser Ser Pro Pro Val Ile Leu Leu Ile Ser Phe Leu Ile Phe
 20 25 30

Leu Met Val Gly
 35

<210> 51
 <211> 44
 <212> PRT
 <213> Rat

<400> 51

Lys Thr Ile Asn Val Ile Arg Asp Lys Leu Val Lys Cys Gly Gly Ile
 1 5 10 15

Ser Leu Leu Val Gln Asn Thr Ser Trp Leu Leu Leu Leu Leu Ser
 20 25 30

Leu Ser Phe Leu Gln Ala Thr Asp Phe Ile Ser Leu
 35 40

<210> 52
 <211> 36
 <212> PRT
 <213> T. Brucei

<400> 52

Glu Ser Asn Cys Lys Trp Glu Asn Asn Ala Cys Lys Asp Ser Ser Ile
 1 5 10 15

Leu Val Thr Lys Lys Phe Ala Leu Thr Val Val Ser Ala Ala Phe Val
 20 25 30

Ala Leu Leu Phe
 35

<210> 53
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic

<400> 53
 gaagggcccc caagagatcc aagtctcct

29

<210> 54
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic

<400> 54
 gaagggccct cacaagtaag tgcctgtgat

30